

## REMARKS

In the Final Office Action<sup>1</sup>, the Examiner objected to claims 9 and 26 due to informalities; rejected claims 26, 27, and 29 under 35 U.S.C. § 103(a) as being unpatentable over Younan et al. (Article V, hereinafter “Article V”) in view *In re Aller*, rejected claims 8-13, 15, and 22-25 under 35 U.S.C. § 103(a) as being unpatentable over Younan et al. (Article U, hereinafter “Article U”); rejected claim 16 under 35 U.S.C. § 103(a) over Article U in view of Yasuo (JP 11-054579); and rejected claim 31 under 35 U.S.C. § 103(a) over Article V in view of Article U. The Examiner allowed<sup>2</sup> claims 6, 14, and 32-34, and indicated that claims 17-21, 28, and 30 are drawn to allowable subject matter, and would be allowable if rewritten in independent form. Claims 6 and 8-34 are pending.

Applicants respectfully traverse the Examiner’s objection to claims 9 and 26. At page 2 of the Final Office Action, the Examiner states that the phrases “without cleavage” and “without being cleaved,” respectively recited in claims 9 and 26, are “not disclosed in the specification.” Applicants respectfully disagree. For example, in exemplary embodiments shown in FIGS. 6A-6C, and described at page 15, lines 1-18, of Applicants’ specification, “sample wafers on which the device pattern is formed,” are shown as uncleaved wafers. Applicants respectfully submit that at least the aforementioned exemplary embodiments disclose the claimed “without cleavage” and “without being cleaved” wafers. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw his objection to claims 9 and 26.

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<sup>1</sup> The Office Action contains a number of statements reflecting characterizations of the related art and the claims. Regardless of whether any such statement is identified herein, Applicants decline to automatically subscribe to any statement or characterization in the Office Action.

Applicants respectfully traverse the rejection of claims 26, 27, and 29 under 35 U.S.C. § 103(a) as being unpatentable Article V in view *In re Aller*. To establish a *prima facie* case of obviousness, three basic criteria must be satisfied. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify a reference or to combine references. Second, there must be a reasonable expectation of success. Third, the prior art reference (or references when combined) must teach or suggest all of the claim elements. See M.P.E.P. § 2143. Moreover, the requisite teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in Applicants' disclosure. See *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). See M.P.E.P. § 706.02(j).

Applicants respectfully traverse the rejection of claim 26, as neither Article V nor *In re Aller* teach or suggest at least the claimed "expos[ing] a crystal surface of the semiconductor wafer without being cleaved," recited in claim 26. Instead, as previously noted by Applicants in the Amendment filed December 17, 2004, Article V discloses taking "two samples . . . from the affected wafer as the good site . . . and the bad site," prior to etching with the Wright etch. (Page 189, 2nd paragraph). That is, Article V teaches that the samples are taken, i.e., cleaved from the test wafer. Thus, Article V does not disclose each and every element of claim 26, as it fails to teach or suggest a semiconductor wafer which is examined "without being cleaved," as recited in claim 26. The holding of *In re Aller* discusses "differences in concentration and temperature," (see M.P.E.P. § 2144.05(II)(A) and (B)). Claims 26, 27, and 29 do not relate to

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2 Applicants thank the Examiner for the allowance of claims 6, 14, and 32-34, but respectfully request clarification of the Examiner's position. Claim 14 depends from rejected claim 9, and thus claim 9 should

concentration, temperature, or other variable parameters. Thus, the holdings of *In re Aller* are not relevant to the issues regarding claim 26 and the Examiner's citation of *In re Aller* is not appropriate.

Moreover, Article V teaches cleaving of a wafer, the exact opposite of the recitation of claim 26. In view of this teaching away from the claimed process, one of ordinary skill in the art would have no motivation to modify Article V to achieve the claimed process.

Furthermore, claim 26 recites a "semiconductor wafer treatment apparatus," which includes "a first device . . . and a second device." The Examiner apparently acknowledges that Article V fails to disclose a "first device to remove . . . a film of a semiconductor wafer which may have a crystal defect . . . and a second device to selectively remove a surface layer . . . to bring the crystal defect into view," but contends that "the apparatus used is a fabrication process . . . which consists of some mechanism used to move and soak the wafers to be etched." Office Action at page 3.

However, the broad and general teachings in the abstract of Article V relied upon by the Examiner fail to teach or suggest the asserted devices or apparatus.

Specifically, Article V fails to teach or suggest a "semiconductor wafer treatment apparatus" including a "first device . . . and second device," required by claim 26. *In re Aller* fails to cure the deficiencies of Article V in this regard for reasons similar to those already discussed above. Thus, claim 26 is allowable for at least this additional reason.

Accordingly, a *prima facie* case of obviousness is not established with respect to claim 26 based on Article V and *In re Aller* at least because the references, either alone or in combination, fail to teach or suggest each and every element of claim 26, and

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also be allowable.

because there is no motivation or suggestion within the applied references drawn to “expos[e] a crystal surface of the semiconductor wafer without being cleaved,” (emphasis added), as recited in claim 26. Claims 27 and 29 depend from independent claim 26, and are allowable at least due to their dependence. Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims 26, 27, and 29.

Applicants respectfully traverse the rejection of claims 8-13, 15, and 22-25 under 35 U.S.C. § 103(a) as being unpatentable over Article U. Applicants note that Article U is the only reference relied upon by the Examiner for this particular rejection. M.P.E.P. sets forth that

[t]he distinction between rejections based on 35 U.S.C. 102 and those based on 35 U.S.C. 103 should be kept in mind. Under the former, the claim is anticipated by the reference. No question of obviousness is present. In other words, for anticipation under 35 U.S.C. 102, the reference must teach every aspect of the claimed invention either explicitly or impliedly. Any feature not directly taught must be inherently present. Whereas, in a rejection based on 35 U.S.C. 103, the reference teachings must somehow be modified in order to meet the claims. The modification must be one which would have been obvious to one of ordinary skill in the art at the time the invention was made. M.P.E.P. § 706.02(IV).

M.P.E.P. clearly instructs that, for a proper 35 U.S.C. § 103 rejection, “the reference teachings must somehow be modified in order to meet the claims.” Id. Therefore, if the Examiner applies a 35 U.S.C. § 103(a) rejection based solely on Article U, he must articulate how Article U must be modified to supposedly teach each and every claim element. The Examiner does not explain how or why Article U must be modified.

Moreover, “[i]t is important for an examiner to properly communicate the basis for a rejection so that the issues can be identified early and the applicant can be given fair opportunity to reply.” M.P.E.P. § 706.02(j). The Examiner’s rejections are not properly communicated, as there is no explanation of why one of ordinary skill in the art at the time the invention was made would have been motivated to make the proposed modification to meet the elements of Applicants’ independent claims. M.P.E.P. further instructs that,

[a]fter indicating that the rejection is under 35 U.S.C. 103, the examiner should set forth in the Office action:

(A) the relevant teachings of the prior art relied upon, preferably with reference to the relevant column or page number(s) and line number(s) where appropriate,

(B) the difference or differences in the claim over the applied reference(s),

(C) the proposed modification of the applied reference(s) necessary to arrive at the claimed subject matter, and

(D) *an explanation why one of ordinary skill in the art at the time the invention was made would have been motivated to make the proposed modification.*

(Id., italics added.)

In this rejection, the Examiner has not set forth “an explanation why one of ordinary skill in the art at the time the invention was made would have been motivated to make the proposed modification.” Id. Applicants respectfully request that the Examiner cite references in support of the Examiner’s assertion or provide an affidavit if it is within the Examiner’s personal knowledge as discussed in M.P.E.P. § 2144.03.

Moreover, Article U fails to teach or suggest each and every element recited in independent claims 8, 9, and 23, for at least the reasons set forth in an Amendment filed December 17, 2004. Claims 10-22, 24, and 25 depend from either allowable independent claim 9 or 23, and are thus allowable at least due to their dependence.

Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims 8-13, 15, and 22-25 under 35 U.S.C. § 103(a) as being unpatentable over Article U. Furthermore, if the Examiner maintains the rejection of any of claims 8-13, 15, and 22-25, Applicants respectfully request that the Examiner withdraw the finality of the Office Action as set forth in M.P.E.P. § 706.07(d), and issue a new non-final Office Action to provide Applicants with an opportunity to respond to any additional arguments raised by the Examiner.

Applicants respectfully traverse the rejection of claim 16 under 35 U.S.C. § 103(a) over Article U in view of Yasuo. Claim 16 recites “creating in advance a reference area including a defect-free device pattern on the wafer.” The Examiner admits that Article U does not teach “creating in advance a defect-free pattern,” but contends that Yasuo teaches the element of claim 16 requiring a “defect-free pattern.”

As set forth in detail in an Amendment filed December 17, 2004, Yasuo cannot teach the claimed “creating in advance a reference area including a defect-free device pattern on the wafer.” Briefly, Yasuo discloses a method of analysis using oxygen precipitates on an otherwise bare wafer surface so as to allow analysis by “a laser foreign matter detecting device . . . in [a] defective distribution on the entire wafer,” (Abstract, emphasis added) and therefore fails to teach or suggest a “defect-free pattern.” Yasuo thus fails to cure the deficiencies of Article U. Accordingly, a *prima facie* case of obviousness is not established based on the Examiner’s proposed combination of Article U and Yasuo. Furthermore, claim 16 depends from allowable independent claim 9, and is allowable at least due to its dependence from claim 9. Accordingly, claim 16 is allowable over Article U and Yasuo. Applicants therefore

respectfully request that the Examiner reconsider and withdraw the rejection of claim 16.

Applicants respectfully traverse the rejection of claim 31 under 35 U.S.C. § 103(a) over Article V in view of Article U. Claim 31 depends from claim 26, and accordingly incorporates all the limitations of claim 26. For at least the already discussed reasons, Article V and Article U fail to teach or suggest, either alone or in combination, each and every element recited in claim 26, and required by claim 31. Accordingly, no *prima facie* case of obviousness is established with respect to claim 26, based on Article V and Article U, and claim 31 is allowable at least due to its dependence from claim 26. Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claim 31.

In view of the foregoing remarks, Applicants submit that this claimed invention is neither anticipated nor rendered obvious in view of the prior art references cited against this application. Applicants therefore request the Examiner's reconsideration and reexamination of the application, and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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By: 

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